



## Review of Usability Model for Tourism Website

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KEYWORDS	ABSTRACT
Delone and McLean Model Tourism website Website usability	Websites are important nowadays in the globalized competition. Almost all the organizations used the website to share information and as a medium of communication because it not only cost effective but also save time. Internet technology has been used traditionally in the tourism industry to provide access to reliable and accurate information, improve service quality, and contribute to greater traveler satisfaction. Website is creating engagement with the visitor pre-visit, thus increasing their motivation to visit, informing, shaping expectations, and signaling behavior appropriate for the site. Therefore, it is important to make the website usable as many of these sites offer little in the way of usual tourism structures and cues. This paper review previous research regarding usability model or tourism website.

### 1.0 INTRODUCTION

User will always use the website if the website can achieve their task or goal for searching the information or using its services more quickly, easily, and effectively. Therefore, there is no doubt that the website is very important to company or organization. There are many factors or characteristic to determine the quality of a web site and usability is one of them. There are many quality models that contain usability characteristic such as McCall's Quality Model, Boehm's Quality Model, ISO 9126 Quality Model, FURPS Quality Model, Dromey's Quality Model and QUIM Quality Model.

The first version consists six major dimension or categories of IS success that are System Quality, Information Quality, Use, User Satisfaction, Individual Impact and Organizational Impact. Usability is on of attributes in System Quality. Usability is an attribute that gives impact or influences the quality of a website. There are various definitions or terms of usability such as Shackel defined as usability of a system or equipment is the capability in human functional terms to be used easily and effectively by the specified range of users, given specified training and user support, to fulfil the specified range of tasks, within the specified range of environmental scenarios.

ISO 9126 defined usability as a set of attributes that bear on the effort needed for use, and on the individual assessment of such use, by a stated or implied set of users. Nielsen referred to usability attributes as learnability, efficiency, memorability, error, and satisfaction. Based on ISO 9241 – 11 in HCI field, usability is defined as the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use. Internet technology has

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been used traditionally in the tourism industry to provide access to reliable and accurate information, improve service quality, and contribute to greater traveller satisfaction.

Even there are many studies about website usability, they have caused inconsistency because many usability aspects offered. The list of usability as well as the related factors, criteria, and metrics is not consistently defined across different standards or models. This supported by the study conducted by, focuses on the lack of consensus on the multifaceted dimensions of website usability and lack of investigation of the nomological networks among website usability constructs. Based on study by, they analyse the element or attribute for usability by explore published definitions of usability.

Using different instruments to measure the same usability construct is another problem with previous studies, making direct comparisons of research findings difficult. There are still lack of consensus about website usability constructs and how to measure them although there are several metrics, guidelines, and theories of website usability. Previous studies provided theoretical models of website usability with a rich understanding of the effects of website usability constructs on perception and behaviours of online consumers however there still a room for further investigation because each theory uses different set of website usability constructs and measure similar constructs using different measurement item. Most of the previous studies show that effectiveness, efficiency, and user satisfaction are the main consideration to evaluate website usability and based on user perception.

The identification of the attribute in website usability is crucial because it related to the development of the measurement instrument.

## 2.0 USABILITY AND WEBSITE USABILITY

In Human Computer Interaction terms, usability refers to a usable user interface or in other words, to make a system easy to learn and easy to use. In this table, most of the usability definitions mentioned about users which indicates that the user opinion is important to evaluate the usability. Every user that uses the website has their own tasks or goals to achieve, such as to find information or to buy something from the website. Each user has their own context of use.

If the website lacks the usability element, it will cause user satisfaction degradation and consequences are user complaints, site abandonment, loss of current or future business, bad press, bad decisions, lost time, and poor productivity. A well-designed user interface is a critical factor. The perception of usability is also influenced by user characteristics such as gender, age, educational level, and technology skills. All these scenarios may cause the user to give up on the website, consider it unusable and describe the experience as a bad one.

Table 1 : Usability definitions

Sources	Definitions
Shackel (1991)	The capability in human functional terms to be used easily and effectively by the specified range of users, give specified training and user support, to fulfill the specified range of tasks, within the specified range of scenarios.
Jacob Nielsen (1993)	Usability is a general concept that is difficult to measure but it is related to several parameters that can be measured.
ISO 9241-11 (1998)	The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use.
ISO 9126 (2001)	The capability of the software product to enable specified users to achieve specified goals with effectiveness, productivity, safety, and satisfaction in specified contexts of use.

ISO 9126-1 (2001)	The capability of the software product to be understood, learned, operated, attractive to the user, and compliant to standards/guidelines, when used under specific conditions.
Wagner et al., (2014)	Usability is the performance achieved and satisfaction experienced by systems users.
Díaz et al., (2017)	Context dependent and shaped by the interaction between tools, problems and people.

### 3.0 REVIEW MODEL FOR TOURISM WEBSITE

Table 2 shows the summary of the initial study about website usability that focus on tourism website. However, there is need for further investigation because each theory uses a different set of website usability constructs and measure similar constructs using different measurement items. Most of the previous studies show that navigation, accessibility, content, and user satisfaction are the main consideration to evaluate website usability and based on user perception.

Table 2 : Initial study of website usability model

Reference	Background	Method	Findings
[16]	Travel website - Online satisfaction - Perceived risk online - Perceived website usability	This research involved 228 respondents. The questionnaire used 16 items. The analysis conducted using Confirmatory factorial analysis (CFA) and regression analysis.	The results show that the customer satisfaction, perceived risk online and perceived website usability give influence on customer during browsing the website. If the customers satisfied and perceive the website is usable, it gave positive affect towards the travel destination promoted on the website.
[22]	E-government website - Accessibility - Information architecture - Legitimacy - Navigation - User-help and feedback - Online services	Five (5) inspectors were involved to evaluate the websites. The research uses heuristic evaluation and automated usability methods.	Overall, the e-government websites in SSA are poor in the context of usability. The website facing several usability problems. This can reflect to the failure the e-government system. This research used inspectors to evaluate the websites. Therefore, the research did not indicate the usability issues from user's perspective.

[23]	<p>Evaluated the Malaysian online tourism websites in terms of usability using five tourism websites in Malaysia.</p> <p>Based on ISO 9241-11 that has four categories:</p> <ul style="list-style-type: none"> <li>- Content, organization, and readability</li> <li>- Navigation and links</li> <li>- User interface design</li> <li>- Performance and Effectiveness</li> </ul>	<p>40 respondents involved in this research. 24 questionnaire and using merit. Usability score based on mean value of each category. Used 5 like point.</p>	<p>Most of the five Malaysian tourism websites have good usability level in four categories. Based on user perception to evaluate the websites.</p>
[24]	<p>Examine 55 city tourism websites</p> <ul style="list-style-type: none"> <li>- Direction Information</li> <li>- Visa and Policy Information</li> <li>- Multilingual Functions</li> <li>- Gallery and Image Presentation</li> <li>- Currency Considerations</li> <li>- Local Information (Weather/Time)</li> <li>- Utility Functions (sitemap and search)</li> <li>- Yellow Pages Information</li> <li>- Adoption of Multimedia Technologies</li> <li>- Wording &amp; Terminology</li> <li>- Content Categorization</li> </ul>	<p>Content analysis</p>	<p>It shows that usability challenges exist in various aspects in both content and functions. Many problems reflect a lack of user-centered design and interactivity in the city tourism website development. This research also found that usability is closely connected with cultural difference.</p>
[25]	<p>Combining the IS success model with the ECM, Explored the official website of the KTO</p> <ul style="list-style-type: none"> <li>- Usefulness</li> <li>- quality confirmation</li> <li>- Information quality</li> <li>- Service quality</li> <li>- Design quality</li> <li>- Destination website satisfaction</li> <li>- Destination website continued usage intention</li> <li>- Intention to visit destination</li> </ul>	<p>Structural Equation Modeling (SEM)</p>	<p>Evaluate the usability model using SEM. Most of the attributes are significant.</p>

[26]	<p>Conducts an analysis on 11 tourism websites in Taiwan.</p> <ul style="list-style-type: none"> <li>- performance prediction</li> <li>- effort expectancy</li> <li>- social influence</li> <li>- facilitating conditions</li> <li>- conducts analysis on influence of behavioral intention on use behavior.</li> <li>- Guidance Usability:</li> <li>- functionality</li> <li>- user control</li> <li>- visual clarity</li> <li>- language and content,</li> <li>- consistence</li> <li>- system and user feedback</li> <li>- online assistance</li> <li>- network obstacle</li> </ul>	<p>This study conducts interview and survey on 40 people in pre-test.</p> <p>This study conducted survey using questionnaire to collect information</p> <p>Structural Equation Modeling (SEM)</p>	<p>Research results show that web usability factors highlighted by users and reasons of enhancing willingness of user using websites could solve problems existing in websites, increase website flow and trust of users, and further increase overall operation income of tourism websites.</p>
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#### 4.0 ADAPTED MODEL FOR TOURISM WEBSITE

They adapted the DeLone and McLean model and the Technology and Acceptance model or TAM model for evaluating customer-to-customer e-commerce websites in Malaysia based on user perspective. All the elements in each category will contribute to the perceived usefulness and perceived ease of use that determine the user to revisit the website.

Table 3 : Attribute for website usability model

Attributes	Description
Efficiency	The way a website supports the user in carrying out their tasks and the capability of the website to enable users to expend appropriate amounts of resources in relation to the effectiveness achieved in a specified context of use.
Effectiveness	Refers to how good a website is at doing what it is supposed to do and the capability of the website to enable users to achieve specified tasks with accuracy and completeness.
Accessibility	Refers to how easy the user can access the website and the capability of the website to be used in terms of response time to each task performed by the user and users with some type of disability (e.g., visual, hearing, psychomotor).
Attributes	Description
Navigation	Refers to the capability to provide alternative interaction and navigating techniques and making the information easier to find.
Content	Refers to the completeness and relevance of information on the website and content is up to date.
Interface Design	Refers to the technical and visual design concerns of the website interface, including its design elements (color, font, images/icons, scrolling, links etc.) and consistent design and layout and

attractiveness of the website.

Interactivity      Refer to the ability of a computer to respond to a user's input.

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## 5.0 CONCLUSION

Most of the previous studies show that effectiveness, efficiency, and user satisfaction are the main consideration to evaluate website usability and based on user perception. The identification of the attribute in website usability is crucial because it is related to the development of the measurement instrument.

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